MANITOBA AGRICULTURAL COLLEGE

Winnipeg, Canada

Annual Report for 1918

Being Part of the Annual Report of the Manitoba Department of Agriculture and Immigration.

:: PRINTED BY ORDER OF THE LEGISLATURE OF MANITOBA ::

ANNUAL REPORT

OF THE

Manitoba Agricultural College

Being Part of the Report of the Manitoba Department of Agriculture and Immigration

For the Year Ending

November Thirtieth

1918

Printed by Order of the Legislature of Manitoba.

Students' Residence.

Looking North from the Administration Building.

The President

Winnipeg, January 29th, 1919

Honorable Valentine Winkler,
Minister of Agriculture and Immigration.

Sir:—I beg to present herewith my fourth annual report as President of the Manitoba Agricultural College:

ADDITIONS TO HONOR ROLL

Members of Staff

Francis, Private J., No. 2650704—B. Battery, Milford Camp, Witley, Surrey, England.

Shanks, G. L., No. 73649, R. A. F.—Home.

Graduates

Bjarnason, S. A., No. 2476582—C.A. M.C. Home.
Bruce, Robt. J.—R.A.F.
Johnson, A.T.—Co. F. 358th Infantry, American Exp. Force, France.
Hutton, F.V.—34th Fort Garry Horse, Winnipeg.
Newcombe, Fred.—R.A.F. Home.
Shanks, G.L. No. 173649, R.A.F.—Home.
Watson, E.W., No. 171459—Home.
Wier, C.A.—R.A.F., Overseas.

Undergraduates

Agnew, Percy Royal Navy, Can. Volunteers.
Anderson, W. S.—R.A.F.
Ash, H. J.,
Bousfield, Harold—R.A.F.
Bell, Gordon, E., No. 2130440—1st D.B.M.R.
Bruce, Wilfred, No. 3346345—11th Reserve, 6th Co., Seaford, Sussex.
Carpenter, A. H., No. 3513—C.M.G.B.
Chapman, Clifford—R.A.F.
Coltart, W.G.—1st D.B.M.R.
Cormack, J. W.—1st D.B.M.R.
Crawford, M.—R.A.F., Home.
Faulie, J.D.—1st D.B.M.R.
Fletcher, Chas. W. No. 2130599—1st D.B.M.R.
Fox, S. E. No. 3210472—21st Reserve, Aldershott, England.
Gibson, J. A.—R.A.F.
Goorovitch, Julius, No. 3391—Jewish Unit, British Army, France.
Graham, J. D., R.A.F. Home.
Grant, H. C.—R.A.F. Home.
Green, J. B.—1st D.B.M.R.
Hoy, Russell—1st D.B.M.R.
Heise, R. E.—R.A.F. Home.
Holden, G. W.
Hopkins, Chas.—Depot Battalion.
Hopkins, John—R.A.F.
Iverach, W. E.—R.A.F. Home.
Johnson, Geo. W. No. 2128951—A. Co., 43rd Battalion.
Kennedy, C. G.—1st. D.B.M.R.
Kilty, Edmund.
Leslie, J. L., No. 2130189—81st Overseas Draft, 1st M.R. Co., France.
Maynard, Elgin—Depot Battalion.
Milne, Geo., No. 2129326—81st Overseas Draft.
Moore, H. R. No. 2476362—Siberian Force.
McEwing, R.—Returned.
McKenzie. Chas.—Canadian Engineers
McKenzie, Gordon—Canadian Engineers.
McPherson, Alex., R.A.F. Home.
Mutchmore, S. M.—R.A.F.
Perkins, F. C.
Prefontaine, A.
Rankin, G. G.
Ready, Welland, No. 922133—C. Co., 3rd Battalion, Can. Engineers, France.
Reid, S. A.
Ridgeway, V., No. 2382728—Military Hospital, Winnipeg.
Saville, H., No. 172621—R.A.F.
Shannon, E. F.—R.A.F. Home.
Smith, Lieut. E. K.—D. G. Army Veterans Corps.
Smith, W.—Depot Battalion.

Undergraduates. (Continued)

Svlik, John.
Swenson, Walter—R.A.F. Home.
Valiant, Lieut. Edgar—R.A.F.
Vannice, Elmer—Co. M. 349th Infantry, A.E.F. France.
Weir, Gilbert—Depot Battalion. Home
Wieneke, Sergt. P. H.—Headquarters Co., 1st American Tank Centre, A E.F. France.
Wheatley, C. C.

Students Killed in Action or Died of Wounds

Undergraduates

Baskerville, C. E.
Bousfield, Harold—R. A. F. Killed while training.
Ewens, Basil—Died in camp in England.
Grant, E.A.—Canadian Scottish.
Gamble, Chas.—
Jenkins, M. J.—P.P.C.L.S.
Lan, John W.—1st C.M.R.
Lovie, Gordon—1st C.M.R.
Magnusson, G.—27th Can. Battalion.
Rankin, G. G.
Robertson, A.H.W.—46th Battalion.
Robertson, M.—47th Battalion.
Smith, Douglas.
Spear, W. D.—Canadian Engineers.

Undergraduates Wounded and Returned Home

Bowman, Jas. L.—Escaped from Germany, April, 1918.
Bertram, W. M.—45th Battalion.
Creecy, Clarence—196th University Battalion.
Freeborn, Cecil—1st C.M.R's.
Head, Cyril.
Lamb, C. C.—5th Battalion.
Morring, J. E.
MacEwing, R.
Rodway, C. S.—78th Battalion.
Williams, T. L.—45th Battalion.
Young, Nelson—196th University Battalion.

Missing

Arnott, Roy—R.A.F.
Carr, John—
Chapman—27th Canadian Battalion.

Students who have returned to College

Graham, J. D.—R.A.F.
Heise, R. E.—R.A.F.
Iverach, W. E.—R.A.F.
McPherson, A.—R.A.F.
Young, Lieut. N.—196th University Battalion.

Members of Staff Returned to College

Hopper, Captain, C.R.
Larkin, Captain S.
Shanks, G. L.

Members of Staff Killed in Action

Cunningham, Lieut. R. A.—196th University Battalion.

CHANGES IN STAFF

Department	Resigned	Appointed
Animal Husbandry	C. A. Wier (Enlisted in R.A.F.)	
Engineering	Lawson Shanks (Enlisted in R.A.F.)	H. W. Robson
Horticulture		A. V. Mitchener
Dairying	J. W. Crowe	Norman James
Poultry	J. F. Francis (Enlisted in B. Battery Canadian Res.	
Home Economics	Miss Eadie	
	Miss Patrick	Miss Wright
	Miss Kennedy	Mrs. Jean South

Mr. C. A. Weir is at present giving instruction in agriculture with the Khaki University.

Mr. Shanks had not completed his training in Toronto when the armistice was signed. He has now returned to the College as instructor in Engineering.

Mr. Crowe resigned to resume the management of his private business.

Mr. Francis is at present at Milford Camp, Surrey, England.

Several changes will be noted in the Home Economics Department. Miss Eadie was married shortly after her resignation. Miss Patrick resigned to accept the appointment of head of the Home Economics Department at the Alberta University. Miss Kennedy has retired from the profession.

Miss Eadie and Miss Patrick had been with the College for nearly three years, and had rendered excellent service in placing the work in Household Science upon a high plane, and especially in bringing to a completion the course for the degree of Bachelor in Home Economics. Miss Kennedy had been with the College for seven years, and I desire to express my appreciation of the services she has rendered in the Department of Household Art, and the share she has taken in completing the plans for the degree course.

Miss Wright is a graduate with the first class in Home Economics, and as junior instructor is handing on very efficiently the excellent training received under our teachers. Mrs. South received her technical training in England and Ireland, and is giving satisfactory service in teaching the subjects formerly taught by Miss Kennedy.

Miss Mary Kelso has been appointed Director of Home Economics. Her academic education, her all-round technical training at the Macdonald Institute, Guelph, her teaching experience and her personality, well qualify her to direct the work of instruction suited to the young women who enter this institution. The intention in creating this position was to secure balance and unity among the subjects belonging to Home Economics, conditions difficult to secure formerly when the work in Home Economics was organized under the two branches of Household Science and Household Art.

The College work is reported in detail under the various departments following.

Enlargement of College Activities in 1918-19

There is increasing demand for instruction in Farm Engineering. Last year we had 80 men in a two months' course in engineering. This year we have 124, and we refused a number of applications.

With the development of dairying in Manitoba, and the desirability of improving the quality of cheese, dairy butter, and creamery butter, it was thought there might be some response to an offer

of a ten-weeks' course in dairy manufacture. Apparently, however, there is little demand for instruction in dairying in the Province, since only ten men applied for admission to the course.

By arrangement with the Invalid Soldiers' Commission, special courses in agriculture have been put on for returned soldiers. The instruction includes farm practice, judging live stock, farm engineering, grains, grasses and weeds, horticulture and poultry. About 150 men have entered for this instruction so far.

The Soldiers' Land Settlement Board have provided in their prospectus for some college training to be given to applicants who are without experience in farming. This instruction will take the form chiefly in the handling of horses and of farm machinery, and, according to present arrangements, a twelve weeks' course will be given at the Agricultural Colleges. This College is ready to give this course as soon as the applicants present themselves.

Correspondence courses have been offered this year, and already a number of outside students have enrolled for these courses.

In Memoriam

Death has removed two valued members of our teaching staff, both of whom belonged to the Department of Chemistry.

Lieutenant Cunningham.—In the spring of 1916, Lieutenant Cunningham, who had been Lecturer in Chemistry, enlisted with the 196th University Battalion. After training with his battalion at Camp Hughes, he proceeded overseas in November, 1916. He remained in England, detailed for instructional work, until 1918. In September of 1918 he went into active service, and was killed in action at Cambrai.

Lieutenant Cunningham was a very efficient member of our staff. He was an enthusiastic teacher, prominent in the social life of the College, a keen sport, and an active worker in the Y.M.C.A. He was a good, all-round man, and for his broad manliness he is sorely missed in College circles.

Professor Arnold John Galbraith.—It is with great sorrow that we record the death of Professor Galbraith. He was taken ill with influenza on November 1st, and died of pneumonia on November 11th. Professor Galbraith was an excellent agricultural chemist. He possessed the rare combination of competent technical knowledge of chemistry and a first-hand acquaintance with agriculture. That combination enabled him to deal discriminatingly with the problem of soil fertility and animal nutrition.

While his professional qualifications made him a valued member of our College staff, his personal qualities endeared him to his associates. His generous temper and his cheery disposition made him generally beloved.

Present Needs of the College

An additional highly-trained instructor in Home Economics. While the degree work has been added to the load carried by the

staff in Home Economics, there has been no addition to the staff in the last three years, since that work was added. The greater number of our girl students remain for two or three years, and the educational needs of this majority must be given due consideration, and this work alone is sufficient for the present staff. The degree work can be kept up to standard only by an additional instructor to take special charge of the degree course.

A professor of Animal Husbandry, either to assist Professor Wood or to divide with him the heavy responsibilities of that department. The return of men from the front will enable us, it is hoped, to place this department on the same footing it held three years ago.

An instructor in Poultry Husbandry. At present Professor Herner is alone, since Mr. Francis enlisted. Professor Herner is deserving of high praise for the present excellent condition of the poultry plant, and for the valuable bulletins he has prepared this last year in addition to his teaching and the superintendence of the plant. But one man cannot do justice to the demands upon the department. A first-class poultry instructor should be added to the staff.

Surveys and Investigations in Farm Management, Cost of Production, and in Rural Conditions. It is not enough to have opinions about these matters. It is necessary, if the College is to take its proper leadership in the farming and rural development of Manitoba, that it be possessed of accurate information, and the only way to have that information is to investigate the facts as they are, on the farms and in the rural homes of the Province.

I wish to thank the Board of Directors for their unwearying interest in the work of the College and their devotion to its welfare. Their support has greatly assisted the College staff in their endeavor to maintain a high level of efficiency, and to extend the usefulness of the College to the people of the Province.

I wish also to convey to the Minister of Agriculture and to his staff at the Department of Agriculture, our sense of appreciation of their hearty co-operation in all things which it is the duty of the College to do. Especially I wish to thank the Minister of Agriculture for the backing he has given us, and for the generous provision made through the Legislature for the maintenance of the College.

Respectfully submitted,

J. B. REYNOLDS,

President.

Bacteriology

During the year 1918 the Bacteriology Department carried on the usual student courses on second, fourth and fifth year Agriculture, and second and fourth year Home Economics. Both lecture and laboratory work were taken up with all classes, with the exception of fifth year, which had lecture work only.

During the months of April, May and June, most of the time was taken up in preparing and sending out nitro-culture for alfalfa, sweet clover, red clover and peas. The sending out of this culture was not confined to Manitoba, the distribution covering all the Western Provinces, as well as Western Ontario and a few cultures to North Dakota and Minnesota. Sufficient culture to inoculate a bushel of seed was sent out for 25c, which was the same price as was charged in former years.

From April 1st to August 31st the work of directing returned soldiers was also undertaken, and classes and laboratory work in all necessary departments were arranged for. This work was done in an effort to help out the general cause of the returned soldier's education.

In June and July, bacteriological work was carried on with the Normal School classes, consisting mostly of practical work in the canning of vegetables.

In October work was begun on testing the College herd for contagious abortion, and, during the last three months of the year, upwards of 300 tests were made along this line, resulting in the detection of eight positive cases of cows affected with the abortion germ.

A daily routine test of the College water supply has been carried on throughout the year, as well as a number of tests of samples of water sent in from the country.

Through the course of the year occasional meetings were attended and addresses given in the country as opportunity presented itself.

In the Botanic Gardens.

Botany and Biology

	Attendance
Winter Extension Work, 18 lectures....	2,400
Teaching—Regular students	150
" Normal teachers....	162
" Soldiers	84

Investigation Work on Wheat Rust.

Barberry bushes at Manitoba Agricultural College showed no natural infection. Artificial infection was produced in four days from wild barley stubble. The spread of spores to wild grasses around barberry was very noticeable. The range of spore-spread was observed.

Tagged wheat of 1913 produced 4% smut in 1918.
Tagged wheat of 1917 produced 10% smut in 1918.
Covered smut of barley, 1917, produced 12% smut in 1918.
Fusarium Brown Ring of potatoes not transmitted by seed.
Fusarium Brown Ring from ground infection.
Fusarium Brown Ring in 30% of one variety (American Wonder).
Potato Leaf Roll in 15% of M.A.C. potatoes.
Potato Leaf Mosaic in 4% of M.A.C. potatoes.
Potato Leaf Mosaic in 90% of one variety (Green Mountain).
Wilt, Leaf Roll and Rhizoctonia equally bad in East Kildonan.
Rust spores on wild barley germinated every day from October 1st to December 31st.

Now under Investigation—

Resting period of seeds and potatoes.
Behaviour of the growth principles in potatoes.
Do immature potatoes give best results in Manitoba?
Do red rust spores on wild barley withstand frost?

Botanic Gardens—

Planted: 500 Evergreens; 450 Elm, Maple and Ash; 240 Shrubs; 200 Native Plants.

Bulletins—

No. 23—Our Friends, the Birds.
No. 25—Gophers and Squirrels in Manitoba.
No. 30—Lessons on Weeds.

Posters—

Poison Ivy; Formalin; Gophers.

Leaflets—

On our Willows; Poplars; Maple; Oak; Ash; Elm and Native Shrubs.

Articles in Agricultural Press—

6 on Weeds; 2 on Barberry; 1 on Poisonous Plants; 6 on Cereal and Potato diseases.

Correspondence—

Over 1,000 letters on Weeds, Birds, Gophers, Wild Plants, etc.

Chemistry

The work of the Chemistry Department may be divided into four distinct branches: instrutional, analytical, investigational and the care of the College filtration and gasoline gas plants.

The instructional work consists in the teaching of Chemistry in all the five years, both of boys and girls, excepting the fifth year degree, where it may be chosen as an option.

The analytical work consists in the analysis of foods and feeding stuffs, drinking waters, formalin, samples of coal used by the various provincial government institutions, and miscellaneous analyses arising from the work of the College and the Department of Agriculture.

During the summer of 1918, Professor Galbraith conducted a reconnaissance soil survey of the Province. The field work was continued into late October and a considerable portion of the Province was covered. The analytical work connected with the soil samples remains to be carried out.

In addition to the soil survey work, Dr. Shipley was engaged in investigational work connected with the "alkali" content of Red River Valley soils.

The Department regrets very much to report the loss from influenza of Professor Galbraith, who for over two years had been in charge of the work of the Department. After a short illness Professor Galbraith passed away on November 11th.

English

The Department of English has an important work in any college. In an agricultural college, where many of the students enter without the proper foundation, an extra burden is laid upon all its teachers. A good deal of individual help must be given each year in elementary work, such as spelling, sentence structure and theme writing. Courses in English composition, English literature and public speaking are given in all five years to agricultural and home economics students alike. Mr. Murchie has been the only assistant in the Department since Mr. Hopper left for overseas in 1916, but President Reynolds was ready to assist whenever his other duties permitted, and this enabled us to carry on the work without adding to the staff during the war. Captain Hopper, after two and a half years overseas, we are glad to say has returned and will take up his duties at once in this Department.

In the summer months Mr. Murchie gave his time to rural sociology, and the head of the Department prepared the 1918-19 Calendar and gave his time to the regular duties of a registrar.

Physics and Mathematics

From January to April inclusive, the major part of the time of this Department was spent in instructional work with the regular classes, in which some 35 periods per week in lectures and laboratory were carried on. Assistance was also given the Engineering Department during the Engineering Short Course by way of a course of two lectures per week on Electricity relative to Gas Engine Ignition, and two lectures per week on Farm Arithmetic.

A short course of lectures and demonstrations was given to the Normal Teachers' Class on Meteorology and Climatology and its bearing on Agriculture.

In July and August investigational work was carried on with a view to determining what effect was produced by treating seed with an electric current before sowing. In this research work the object aimed at was three-fold; (1) To discover if seed treated electrically would germinate any earlier; (2) To determine if any strengthened vitality was evident; (3) To ascertain if any increase in yield resulted from such treatments.

At intervals during the summer help was given the Extension Service of the Department of Agriculture in inspecting and judging summerfallow and standing crop competitions.

A physical examination and mechanical analysis was made of a considerable number of soils sent in from various parts of the Province throughout the year and reports issued on the same. A number of magnetos sent in from outside points were also examined, tested and defects remedied.

During the winter of 1918 the Physics Department stored and kept properly charged storage batteries brought in by students and others connected with the College.

The routine work connected with the taking of the weather records and compiling data for local statistics is carried on by this Department.

A few meetings at outside points were addressed during the year.

The members of this Department gave practical assistance in helping to relieve the labor situation in the harvest field, during the latter part of August and September.

Animal Husbandry

LIVE STOCK ON HAND

Cattle	Cows	Heifers	Bulls	Total
Holstein	11	6	3	20
Ayrshires	6	7	1	14
Shorthorns	5	8	2	15
Angus	6	6	2	14
				63

Sheep	Ewes	Lambs	Rams	Total
Oxfords	12	5	1	18
Leicesters	14	10	1	25
Shropshires	8	10	1	19
				62

Swine	Sows over 1 year	Sows under 1 year	Boars	Barrows	Total
Yorkshires	10	32	2		44
Berkshires	5	22	1	14	42
Poland Chinas	5	7	1	1	14
Crossbreds		6		8	14
					114

Three Shorthorn cattle were recently added to the herd. In selecting these cattle, Professors G. W. Wood and R. S. Stephenson state that three things were considered essential—individuality of the animal, the pedigree, and, where possible, the prepotency or breeding ability of the animal. While they do not lay as much emphasis on the pedigree as do some breeders, yet they do consider it of great importance. Where other factors mentioned were equal, the value of the pedigree was the deciding factor.

Laureate, the four year old bull, which was secured to head the herd, was purchased on the advice of one of the foremost Shorthorn breeders in the Province. While this bull is not a show animal, yet he is prepotent, as the uniformity of his calves is remarkable. His pedigree is filled with prize winning animals. Village Sultan, his sire, Glenbrook Sultan, his grandsire, and Whitehall Sultan, his great grandsire, are all noted for their show ring careers, as well as for their breeding ability. Laura Marshall, the dam of Laureate, was grand champion female of North Dakota for three consecutive years, while her sire, Sharon Marshall, was considered by many to be one of the greatest show and breeding bulls of his day. Laureate's prepotency, then, is not surprising, since it is backed by ancestors whose individuality and breeding ability are so outstanding.

Two yearling Scotch bred heifers were secured from J. J. Ring, of Crystal City, Manitoba. They are twins, sired by a Broadhooks bull, the imported Broadmind, and out of a great cow, Jessie of the Ring 2nd, a member of the Buckingham family. It is interesting to note that the Broadhook and the Buckingham families were two of the most famous of Amos Cruikshanks' breeding. Being well bred is not the only good feature of Broadmind, for he is considered by many to be the greatest Shorthorn breeding bull that was ever used in Manitoba.

While the above named heifers are bred in the "purple", yet their breeding does not overshadow that of the animals already in the herd, for they are of the Village Blossom family, which was also bred by Amos Cruikshank. Females of such breeding, when mated to a strong breeding bull, such as Laureate has proven himself to be, ought to give satisfactory results.

Dairy Husbandry

Herewith is a brief statement of the instruction and other work done by the staff of this Department.

WINTER TERM, 1918

Class	Approximate number of hours per week required for instruction and preparation	Number of Instructors
1st Year Girls	4	2
1st Year Boys	5	2
2nd Year Boys	3	2
3rd Year Dip.	3	1
4th Year Boys	4	1
5th Year Boys	4	1

Four outside addresses were given during the term.

A bulletin on Home Cheese Making was prepared and published.

After the regular College courses were over in the spring, a course in dairying covering three days a week for five weeks was given at Brandon Normal School.

Five special articles for the agricultural press were prepared during the year.

During the summer five separate classes were given courses in dairying. Four extended over a period of one month each, while one was for six weeks. Two instructors were required for most of this work.

In October the two members of the staff took turns at three weeks work, judging at Boys' and Girls' Club fairs.

Considerable rearrangement of equipment in the laboratories has been made and new appliances added in order to do more efficient work in teaching.

FIRST TERM 1918-1919

Class	Approximate number of hours per week required for instruction and preparation	Number of Instructors
2nd Year Boys	3½	2
"	1½	1
3rd Year Dip.	4	1
1st Year Girls	5	1
5th Year Boys	4½	1
5th Year Boys' Option	3	1
Special Dairy Class	23.0	2
" " "	5 lecture periods per week	1

Agricultural Engineering

In addition to the regular work with the diploma and degree students, as outlined in the College calendar, a two months' course was put on in Farm Engineering from January 20th to March 20th. It was decided to limit the attendance to 64, in order to give the best possible work, but on account of the great number of applications more than 80 were admitted to the course, which were all that could be handled without a considerable addition to the Department staff. Mr. Robert Milne, a former assistant, together with Mr. Pender Shanks, a brother of Mr. Lawson Shanks, helped with this short course. Upon a request from the first year girls in Home Economics, Mr. Shanks gave a special course in stationary gas engine work outside of the regular College hours. Quite a number of the girls availed themselves of this course, and it was, probably, the first class of its kind to take up gas engine work in Canada. Towards the end of March, Mr. Warters, of the Soldiers' Civil Re-establishment Commission, asked the College to take over the instruction work in Agriculture for those men desiring such a course who were being discharged from the hospitals in this military district. The result of Faculty meetings considering this important question was the laying out of a four months course in Agriculture, two months of which would be devoted to Farm Engineering, as outlined in the two months short course circulars. On April 1st we began the first two months short course with returned soldiers, and on the first of June the second two months course, so that in all, the department gave three two months courses in Farm Engineering during the past College year. The department secured the assistance of Mr. Wm. Ferguson, a returned soldier and tractor expert, to help with these summer courses.

Early in the spring a deputation from the Fort Garry Municipality suggested a scheme for the breaking up and cultivation of some of the unoccupied lands in the vicinity of the College. As a result of this suggestion, the Engineering Department undertook to break and backset some 500 acres of available land immediately west of the College property, and across the Canadian Northern Railway's right-of-way. A 14-28 Rumely tractor was purchased for this work, the total expenses covering which already have been compiled by the bursar, Mr. Galbraith. This land will be handled during the coming season by Professor Harrison, and it is confidently expected that it will be of assistance in the greater production campaign inaugurated last summer for the North-west.

Early last June, Mr. Lawson Shanks, who had previously signed up with the Royal Flying Corps, was called upon to report for duty in Toronto. The department worked short-handed for one month, when Mr. Harry Robson was added. Mr. Robson came with ten years' practical experience as a tractor and separator expert with the International Harvester Company of Brandon. Previous to his employment with the above-named company, he had considerable experience along other mechanical lines in shops in Eastern Canada.

His work has been very satisfactory, and the Department was greatly strengthened by his arrival.

It was the intention to put on a fourth two months' course in Farm Engineering, starting the 15th October, or possibly 1st November. This, however, was rendered impossible by the influenza which temporarily closed the College. It is intended to increase the regular two months' winter short course in Farm Engineering, commencing Jan. 14, 1919, by enrolling a maximum number of 120 students. Mr. Mitchell's time during the summer was largely taken up with normal courses in manual training, while the instructor in forge work, Mr. Watt, was busy with the repairs and upkeep of the College and farm, and also with the forge work instruction with the returned soldiers.

Last summer, during his vacation period, Professor Smith visited a number of the tractor firms in the South and studied conditions in the manufacture of farm tractors. As a result of his experience at that time, a number of changes have been made in the work, which will increase the efficiency of the courses in gas engine and tractor lines.

Cutting the Alfalfa Crop on the College Farm.

Field Husbandry

The following is the report of the Field Husbandry Department for the year ending November 30th, 1918:

Permanent teaching and experiment staff		Temporary teaching staff	
T. J. Harrison	Professor		
Wm. Southworth	Agrostologist	D. W. Robertson	Returned Soldier
W. T. G. Wiener	Cerealist		
J. H. Ellis	Experimentalist	Lieut. W. M. Clements	" "

TEACHING DONE IN FIELD HUSBANDRY DEPARTMENT

Teacher	Subject	Class	No. of Periods
T. J. Harrison	Forage Crops	Second Year	40
"	Forage Crops	Correspondence Course	20
"	Market Grades	Third Year	20
"	Soil Management	Third Year	40
"	Market Grades	Fourth Year	20
"	Soil Management	Fourth Year	40
"	Experimental Man'gm't	Fifth Year	20
"	Profitable Farming	Eng. Short Course	18
"	Soil Management	Rural Ministers	4
"	Field Husbandry	Normal Students	—
"	Profitable Farming	Returned Soldiers	156
"	Soil Management	Correspondence Course	12
Wm. Southworth	Forage Crops	Second Year	19
"	Miscellaneous Crops	Third Year	22
"	Forage Crop Impr'v'mt	Fourth Year	38
"	Forage Crops	Normal Students	12
W. T. G. Wiener	Cereal Crop Prod'ct'n	1st Year, 65 lectures, 40 minutes	
"	" " Improv'm't	5th Year, 33 lectures, 40 minutes	
"	" " "	5th Year, 32 laboratory periods of 1½ hours	
"	Grain Judging	1st Year, 65 laboratory periods of 1½ hours	
"	Field Husbandry—		
	May and June	Normal Students; lecture periods, 32, 40 min. each; laboratory periods, 33 of 2 hours each.	
	July and August	Normal Students; lectures, 32 of 45 min. each; laboratory, 24 periods of 2¼ hours.	
W. T. G. Wiener	Ministers' Course	6 lecture periods, preparing class and laboratory materials, 60 hours.	
D. W. Robertson	Farm Crops	Returned Soldiers	156 periods
"	Field Husbandry	Normal Students	20 periods
Lt. W. M. Clements	Farm Practice	Returned Soldiers	156 periods

INSTRUCTION OUTSIDE OF COLLEGE

Name	Place	Lecture
T. J. Harrison	Birtle	The Seed Grain Fair.
"	Crystal City	The Plowing Match.
"	Carberry	Summer Fallowing.
"	Farmers' Week, W'peg	International Soil Products Exposition
"	Farmers' Week, W'peg	Seed Testing.
"	Y. M. C. A.	The 'Teen Age Boy on the Manitoba Farm.

JUDGING

Name	Place	Competition.
T. J. Harrison	Birtle	Seed Grain.
"	Manitoba Soil Products, Winnipeg	Seed Grain.
"	Crystal City	Plowing Match.

EDUCATIONAL EXHIBITS

Place	Exhibit
Brandon	Soil Drifting
Kansas City, Mo.	Manitoba Field Products

EXPERIMENTAL

The experimental work is divided into four sections:

Mr. Southworth has charge of Forage Crop Improvement.
Mr. Wiener has charge of Cereal Crop Improvement.
Mr. Ellis has charge of Soil and Crop Management.
Mr. Robertson has charge of Co-operative Experiments.

The following are the reports:—

1. Forage Crop.
2. Cereal Crop.
3. Soil and Crop Management.

FORAGE CROP IMPROVEMENT

1. Leguminous Crops—The investigations dealing with the difficult problem of breeding a strain of alfalfa which will be suitable for Manitoba climatic conditions have been continued.

Over 3,000 hybrid alfalfa plants have been set out in individual hills, and a few of these plants are showing good qualities, some for winter hardiness and one or two for seed production.

Experiments are now under way with the object of trying, by hybridization, to combine the good qualities of these various superior plants into one single plant.

In the selections from commercial strains of alfalfa, out of the 4,000 plants raised in 1916, about 80 to 90 per cent. were killed off during the severe winter of 1917-18. From the best of the surviving hardy plants, seed has been reserved for further tests.

Field row tests are now being conducted with the following leguminous crops:

Alfalfa, 21 selections from individual plants.
Broad Red Clover, 22 selections from individual plants.
Sweet Clover, 35 selections from individual plants.

2. Grasses—An attempt is being made by the method of selection to raise superior strains of the following grasses:—Timothy, Western Rye-grass, Awnless Brome Grass, Meadow Fescue, Meadow Foxtail.

In the summer of 1917 seed was collected from a number of wild grasses growing in Northern Alberta. From this seed nearly 1,000 plants have been raised.

Any one of these selections which shows superior qualities for forage will be reproduced and brought into general cultivation.

3. **Corn**—Some progress has been made in developing a fodder corn suitable for Manitoba. The varieties showing greater promise than the rest are Quebec 28 and North West Dent.

Experiments in hybridization of corn are being planned with a view to testing the possibility of raising a suitable fodder corn for Manitoba.

4. **Short Season Fodder Crops**—The following crops have been tested during the past season: Hairy Vetches: Common Vetches: Grass Pea; Soy Bean; Field Bean; Millet, seven varieties; Amber Sugar Cane; Kaffir Corn; Kaoliang; Sudan Grass; Teosinte.

CEREALS

Seed Testing

During the months from November, 1917 to November, 1918, the following tests were made:

Oats	1529	samples
Barley	393	"
Wheat	433	"
Miscellaneous	1345	"

Under Miscellaneous, 344 samples of grasses, clovers, alfalfa seeds and special crop seeds were tested. 1,001 tests were made to determine the value of the formalin used by farmers on their seed. Widespread reports were circulated to the effect that the formalin used was killing the seed. 1500 tests were made altogether in this connection, but only 1,001 tests were credited to seed testing owing to the fact that 499 tests were made under the regular experimental work conducted each year with formalin and bluestone and seed germination.

Variety Tests

It is the object of the Department to test all new strains and varieties of wheat, oats, barley, rye and flax being distributed by the seed houses and others:

VARIETY TESTS

	Varieties	Plots required		Varieties	Plots required
Oats	28	56	Spring Rye	1	2
Wheat	17	34	Buckwheat	4	8
Barley	15	30	Flax	9	18

OATS

The following are results of variety tests:—

Variety	Days maturing	Yield Bus.	Remarks
Leader Oat	112	97.5	White Oat
Green Russina	116	95.5	" " side oat
Siberian	107	94.	" "
Ligowa	104	94.	Light yellow hull
O.A.C. 72	108	101.	Panicle branching
Abundance	108	98.5	" "
Gold Rain	107	104.	" "
Banner	109	105.5	Medium hull, white oat
Dodd's White	106	71.	Thick hull, white oat
Columbus	108	92.	Medium hull, yellow oat
American Triumph	110	97.	Thick hull, white oat
Bumper King	106	100.	Medium hull, white oat
20th Century	106	91.	" " "
Great Lizo	106	95.5	" " "
New Market	107	90.	" "
Victory	107	113.2	" "
Kendal Black	107	93.3	" " Black variety
Garton's 22	102	83.8	" " White oat
Swedish Select	102	98.5	" " "
Alsasman	103	105.5	" " "
Industrial	102	90.	" " "
Rennie's E. Yielder	102	101.4	" " "

The following varieties were also under test, but being very early maturing, were destroyed by sparrows:—

Khersion	Orloff
Sixty Day	Daubeney
Eighty Day	O.A.C. No. 3

Sixty Day Oats have been discarded, being identical with Eighty-Day.

WHEAT

Variety	Days maturing	Yield Bus.	Remarks
Red Fife	116	47.5	Rusted
Garton's 46	114	43.3	Rusted
Preston	114	45.4	
Marquis	112	56.	
Australian	109	45.5	
Pioneer	111	46.	
Prelude	105	- -	Destroyed by birds
Polish	117	39.	
Alaska	124	35.	
Einkorn	118	3,300	lbs.
Kubanka	121	52.5	
Minnesota 169	121	43.	Rusted very badly
Kitchener	115	45.75	" "
Early Red Fife	116	45.	" "
Taylor's Wonder	114	39.	" "
Spelt	118	3,250	lbs.
Emmer	116	3,200	lbs.

RYE

Variety	Days maturing	Yield Bus.	Remarks
Rye, Spring	111	36.	Common Spring

YIELDS OF FLAX

Variety	Days maturing	Yield	
N.D.R.	114	21½	bushels
N.D.R.	73	24	"
Golden		17	"
Longstem		20½	"
Novelty		24	"
N.D.R.	52	26	bushels
Common		30½	"
Premost		22	"
British Fibre Flax		28	"

BARLEY

Variety	Days maturing	Yield Bus.	Remarks
Success	103	55¼	Beardless six-rowed
Black Bearded	94	66.5	Black Barley, six-rowed
Guymayle	94	66.5	Hulless Bearded
O.A.C. 21	101	78.	Steel Grey, six-rowed
Mansfield	102	80.	Yellowish White
Manchurian	102	83.25	Yellowish
Mensury	101	78.	Steel Grey
White Hulless	98	54.25	Light Brown, six-rowed
Canada Thorpe	104	78.	2-rowed White
Gold	103	65.5	2-rowed Yellowish white
Svalofmalster	97	60.	6-rowed, Yellowish
Silver King	99	79.	6-rowed Yellowish white
Odessa	102	70.	6-rowed Light Yellow
Minnesota	108	73.	6-rowed " "
Oderbucker	101	71.	6-rowed, Steel Grey

BUCKWHEAT

Variety	Days maturing	Yield Bus.	Remarks
Common	101	43.	
Silver Hull	103	45.	Later than others
Japanese	101	40.	
Rye Buckwheat	101	49.	

Milling Tests

One milling test was made of a variety of unknown wheat forwarded to us by the Canadian Bank of Commerce. It had been the intention of the Bank to import a car load of this wheat into Canada for distribution to the farmers. The milling tests proved the variety to be of inferior quality; hence both the Bank and many farmers were saved from an unprofitable venture.

Correspondence

Two hundred and twenty-four queries were answered relating to seed, varieties, insect pests and diseases of cereals. About seventy-five specimens of grains were identified and classified.

SOIL AND CROP MANAGEMENT

The Soil Management Investigation consists of experimentation with fallow and stubble land; methods of soil renovation and upkeep of fertility.

The Fallow Experiments include:—

- Summer Fallow Substitutes.
- Frequency of Fallow.
- Dates of Plowing.
- Depth of Plowing.
- Methods of Cultivation for Weed Control.
- Previous and Subsequent Cultivation.

The Experiments with Stubble Land include:—

- Depths of Fall Plowing.
- Dates of Plowing.
- Fall and Spring Plowing.
- Stubble Burning.
- Sowing With and Without Cultivation.

The experiments of methods of Soil Renovation and upkeep of fertility include:—

Green Manures—

The use of legumes and non-legumes, compared with barnyard manure.
The effect of alfalfa as a soil renovator.

Barnyard Manures—

The effect of fresh and rotted manure.
Manure applied in various amounts per acre.
Frequency of application.
Time of application.
Methods of applying and incorporating into the soil.
The effect of manure when applied to wheat, oats, barley, rye, flax, peas, Sudan grass, potatoes, turnips and corn.
The place in the rotation to apply manure.

Commercial Fertilizer—

The effect of commercial fertilizer on cereals, grasses and hoed crops.

A crop sequence experiment which is partly soil management and partly crop management is under way. This experiment consists of a six year rotation, which includes 48 different sequences of cropping. This will give some valuable data in relation to crop rotation, so urgently needed in Manitoba.

The crop management experiments consist of various methods of cereals, grasses, clover and forage crops.

The cereal experiments are listed as follows:—

WHEAT

- The growing of six standard varieties on fallow and fall plowing.
- Dates of seeding on fallow and fall plowing.
- Rates of seeding on fallow plowing.

(Professor Harrison)

- Harrowing the growing grain.
- Stage of maturity when cut.

OATS AND BARLEY

- The growing of six standard varieties of each on fallow and fall plowing.
- Rates of seeding.
- Dates of seeding.
- Harrowing the growing grain.

WINTER RYE

- Varieties on fallow and stubble land.
- Dates of seeding.
- Rates of seeding.
- Methods of seeding.
- Methods of pasturing.

GRASSES AND CLOVER

- Rates of seeding Timothy, Western Rye, Meadow Fescue, Alfalfa, Red Clover and Sweet Clover.
- The effect of nurse crops and previous cropping.
- Methods of seeding.
- Stage of maturity to cut for hay.
- The after treatment and cultivation of alfalfa.
- Kinds and mixtures for hay and pasture.

FORAGE CROPS

The forage crop work consists chiefly in testing out under field conditions the kinds of forage crops which can be grown in Manitoba for hay, pasture, ensilage and soil purposes.

The crops at present under test include oats, barley, rye, wheat, peas, vetches, grass peas, Sudan grass, kale, rape, buckwheat, corn and millets.

CORN

The experiments with corn include:—

Variety tests of corn for fodder.
Variety tests of corn for grain production.
Methods of planting.
Dates of planting.
Depth of planting.
Methods of cultivation.

A silo experiment is under way to ascertain what crops are suitable for ensilage. At present we have seven experimental silos filled with various crops as follows:—Corn, oats and peas, buckwheat, alfalfa, Sudan grass, millet and rape.

ROOTS

Experiments with Root Crops include:—

Varieties, dates and methods of seeding turnips.
Varieties of carrots, mangels and sugar-beets.

Some roots were selected in the fall of 1918 with the object of planting next season for seed production.

POTATOES

Some experimental work was also conducted in 1918 with potatoes as follows:—

Methods of planting.
Seed selection in relation to crop yields.
Effect of manure on crop yields and quality.

The above is a brief summary of the problems under investigation by the Soil and Crop Management Section. Four experiments which have been running since 1915 are being discarded, as it is assumed that sufficient data has been obtained to warrant their discontinuation. These are:—

Seed selection by the use of fanning mill.
The effect of formalin and bluestone on wheat smut.
Methods and depth of seeding wheat and oats.
The inoculation of alfalfa.

The above work of the Soil and Crop Management Investigation Section covers approximately 70 acres. Some 1500 plots are under the supervision of this branch.

While some valuable information is being obtained and compiled from the work which is under way, yet the Department is handicapped by the lack of laboratory equipment for laboratory research in conjunction with the fertility experiments and the stage of cutting hay, crops, etc. It is recommended that the laboratory equipment be provided so that the Department may obtain both practical and scientific data on the solution of the problems under investigation.

Co-operative Experiments

The co-operative experiments consist in having farmers in different parts of the Province try out varieties that, on the experimental field at the College, have been found to be satisfactory for Manitoba. Last year we had sixty-three Field Husbandry co-operators who experimented with one or more of the following:

1.—Wheat varieties.
2.—Oat varieties.
3.—Barley varieties.
4.—Fodder Corn.
5.—Kinds of grasses for pasture.
6.—Kinds of legumes.
7.—Kinds of grass and clover mixtures.
8.—Flax varieties.
9.—Sugar beets.
10.—Rye as a weed control crop.

THE FARM

Since April, 1918, the farm has been managed by the Field Husbandry Department. Last year we produced the following:

46 acres of oats at 103 bushels per acre.
30 acres of corn at 10 tons per acre.
10 acres of turnips at 15 tons per acre.
40 acres grass at 1½ tons per acre.
30 acres summer fallow.
30 acres seeded alfalfa.
30 acres annual pasture.
20 acres permanent pasture.

Some of the Field Plots.

White Sweet Clover Plot on the College Farm.

Horticulture and Forestry

The work of the Department may be referred to under the following headings:

(a) Correspondence.
(b) Class lecture work.
(c) Outside lecture and judging work.
(d) Field work.

Correspondence

The correspondence is increasing very rapidly and constitutes an important part of the work of the Department. Letters asking for information on various phases of Horticulture and Entomology work are being received daily. The Department is able to render valuable public service by this means.

Class Lecture Work

During the College year lectures are being given to the students in Agriculture and Home Economics on Horticulture and Entomology. Special work in these subjects is also being given to the classes of returned soldiers. During the summer months the regular classes in Horticulture have been held for the normal teachers. An endeavor is being made to present this work, both by means of lectures and practical demonstrations.

Outside Lecture and Judging Work

The Department has been called upon to render outside public service in the nature of lectures, practical demonstrations, preparation of exhibits for fairs and exhibitions, and judging in crop competitions and at various classes of exhibitions. An endeavor has been made to meet all requests that have been received for this class of work.

Field Work in Horticulture

The Department has supplied, in the season of 1918, all the vegetables that are required by the dormitory. In carrying out the work, a comparative test has also been made of a number of the leading varieties of garden vegetables. The results this year, with nearly all classes of vegetables, have been most gratifying, as the yield has been about the average and the quality of the highest.

This year an additional area has been brought under cultivation for the production of potatoes. A number of the leading varieties, including Bovee, Early Ohio, Gold Coin and Carman No. 1, were planted, and the results have been most gratifying, both from the standpoint of quality and yield. A co-operative test with a number of varieties of potatoes is being carried on simultaneously at the Experimental Farm, Brandon, and at the Demonstration Farms at Killarney and Birtle; also at the Agricultural College, Winnipeg. Some interesting results, no doubt, will be obtained from this test.

In fruits the work of the year has been quite satisfactory. The bush fruits, including red and black currants, have given good re-

sults, and, incidentally, demonstrated the possibilities with this class of fruit under Manitoba conditions. Red raspberries also gave encouraging results. Raspberries require good windbreak protection and abundance of moisture to give the most profitable returns.

Strawberry plants came through last winter reasonably well and made a very satisfactory growth during the year. Both the June-bearing and the ever-bearing sorts are now growing on the College grounds. The everbearing sorts are rapidly growing in popularity and are likely to be types that will be most generally planted in Manitoba.

Apple trees did not come through the last winter very satisfactorily, and quite a number of trees suffered from severe winter injury. The standard-crab hybrids seem to show the greatest degree of hardiness.

A number of the selected native plum trees, growing on the College grounds, gave a fair yield of fruit, some of the trees producing fruit of large size and good quality. The plum is capable of considerable improvement in Manitoba. The work of improvement will be accomplished either by a careful selection of the best native forms, or by hybridizing these native trees with some of the hardier improved commercial types.

The Department could, at the present time, undertake to advantage a more extensive programme in experimental work in horticulture, together with work in the development of new fruits for Manitoba conditions.

Very valuable service has been rendered to the Department, both in lecture and practical work, by the Assistant, Mr. A. V. Mitchener. His teaching work is effective, and he has also undertaken some valuable outside work.

Outside Work in Entomology

During the summer continual additions were made to the class collections of insects. The Colorado Potato Beetle, the Cabbage Root Maggot and the Imported Currant Worm were studied in relation to life histories and methods of control. Calcium Arsenite, which is cheaper than such insecticides as Paris Green and Lead Arsenate, was tried as a poison for the Colorado Potato Beetle. Although it gave good results this year, it should be used with caution until additional and confirmatory results have been secured.

Poultry Husbandry

There are 1700 laying hens on the plant this winter. Egg records are kept of each hen and feed records for each pen.

200 surplus breeding cockerels for sale.
700 breeders sold during the past year.
1000 broilers sold this season.
4500 dozen market eggs sold during the year.
6000 eggs for hatching sent out this spring.
5000 baby chicks sold this spring.
Revenue of over $6,000 for this year.

All the stock is in the pink of condition to go into winter quarters.

1300 birds in the laying stock are pullets, each selected and handled personally by the head of the Department.

One lot of 160 pullets is divided into 8 pens of 20 each: two pens Barred Rock; two pens White Wyandottes; two pens Rhode Island Reds and two pens Buff Orpingtons—breed against breed to test out the cost of producing eggs in these four general purpose breeds.

There are also two flocks of White Leghorn pullets (100 in each) kept in two types of farm poultry houses. In another house there are two flocks of White Leghorn pullets of 75 birds each, and one flock of 60 each of Reds and Barred Rock pullets kept side by side to determine the cost of production.

There are three hundred yearling White Leghorn hens going into their second year's work. Records for the first year are now complete. These birds are going through for four years to determine the rate of decrease in egg production, the cost of producing the eggs and the rate of mortality respectively from year to year.

There are 60 yearling Barred Rock hens which have been culled twice for egg production and once for color.

75 Mongrel Rock-cross pullets are in house B., representing the first year's work in a five year experiment in grading up a flock of mongrels by using pure bred Barred Rock males.

In all the 44 pens on the plant a record is kept of the feed used and the eggs laid by each hen.

At present there is only one man on the staff for teaching, investigation and management of the plant. Of the staff of three employed at the College last year, Mr. Bergey joined the Extension Staff of the Department of Agriculture, and Mr. Francis enlisted.

So far the Department has done little work wtih ducks, geese and turkeys. Plans are now made and stock in to enlarge these lines. Although the plant is in extra good condition, still we

are not getting one hundred per cent. of use or efficiency out of our equipment and facilities for carrying on College poultry work. The weakness of the Department lies in lack of expert help to conduct the above outlined work the way it should be carried on, and at the same time, do the teaching work as thoroughly as it should be done. The calls for service by telephone and by mail keep increasing from day to day. Disease investigation is becoming more urgent than ever. The poultry breeder's problems are becoming more acute from year to year. He needs help.

More bulletins should be published, and more publicity work carried on. Our correspondence course also needs far more attention than one man alone on the Department can give to this work. Seven students are enrolled, and with a little publicity forty or fifty students could easily be enrolled for this course. So far only seven lessons have been sent out. Twenty more should go out within the next few months. To make it a success, requires more time and concentration than can be given to it just now.

The Department prepared, during the last year, five new circulars and three new bulletins, and also revised and had reprinted three circulars and one bulletin.

The total number of circulars and bulletins now available for distribution is fourteen. The titles of these are as follows:

Bulletins	Circulars
Fattening and Killing Chickens for Market.	How to Preserve Eggs.
Poultry Houses for Farm and Town.	Eggs from the Farm to the Consumer.
Common Breeds of Poultry.	Buying Dressed Poultry.
Hatching and Rearing Chicks.	Backyard Poultry Keeping.
The Pure Bred Poultry Industry.	Ducks.
Poultry Diseases.	Geese.
	Turkeys.
	Feeding for Winter Eggs.

The egg production so far for the winter of 1919 has been a record one. In many of the pens the yield has been as high as 65 per cent. during the month of December. The total sales of eggs alone for the month of November, 1918, amounted to $450.00.

Runs on the South Side of One of the Poultry Houses.

Farm Management and Rural Economics

In August, 1918, Professor A. H. Benton, from the University of Minnesota, took charge of the work in this Department. Since his appointment Professor Benton has been occupied with the following activities:

1. Preparation of a Farm Account Book and Cost Accounting forms.

2. Publicity Work: As secretary of the Publicity Committee he has edited and sent to the press at least one article each week.

3. College Teaching:
   (a) Diploma Courses: Periods per week: 4 on Farm Accounts; 5 on Farm Management.
   (b) Degree Courses: Periods per week: 2 on Farm Management, 5 on Economics.
   (c) Returned Soldiers Courses: Periods per week: 4 on Farm Management.

4. Correspondence Course: Lessons covering simple farm accounts and cost of production—studies have been prepared.

Rural Sociology

Throughout the winter terms lectures on rural leadership were given to the third year diploma class, and to the graduating classes in Agriculture and Home Economics. Similar lectures were given to normal classes in the summer time, emphasizing the place of the rural school in the solution of rural problems. Special attention was given during this course to the value of organized recreation in country life.

This year we held our fourth annual Rural Ministers' Short Course, which was considered by all to be quite successful. Many of the ministers who attend these courses have returned year after year.

Extramural Work:—Occasional lectures on community life were given at Shoal Lake, Newdale, Minto, Boissevain, Killarney, and Cartwright.

Lectures were given at a series of school trustees' district conventions.

Two weeks work was done in connection with the Boys' and Girls' Club fairs.

During the summer some survey work was undertaken to get details regarding the condition of farm labor in Southern Manitoba.

Home Economics

Miss M. L. Kelso, Director of Home Economics.

Teaching Responsibilities.

Fifth Year Home Economics Students—
Equipment and Courses—Two 40-minute lectures per week.
Economics of the Household—Three 40-minute lectures per week.
Fourth Year Home Economics Students—
Economics of the Household—Three 40-minute lectures per week.
Third Year Home Economics Students—
Household Management—Kitchen equipping. One lecture per week and six visits to firms to see equipment and secure prices.
Second Year Home Economics Students—
Home Nursing—One lecture per week. Two visits to the City—one to the Children's Hospital and one to the Child Welfare Bureau.
Physiology and Hygiene—Two lectures per week.
First Year Home Economics Students—
Home Nursing—One lecture per week one term; one laboratory period per week one term.
Extra Teaching—Individual attention given to several students registering late owing to "Flu." epidemic.

Correspondence

(Average, 40 letters per month.)

1. Letters written for information re equipment, publications, etc.
2. Answers to enquiries re courses.
3. Replies to students and to others asking for information.
4. Correspondence courses, owing to delayed opening on account of "Flu." epidemic.
   Home Nursing in First and Second Years.
   Cooking in First and Second Years.
5. Sending out emergency Home Nursing Notes and Diet Sheets to all of the students, ex-students and normal students.

Administrative Work

Interviews with students individually and in groups.
Interviews with teachers individually and teachers' meetings.
Attending Faculty meetings.
Attending Publicity Committee meetings.
Telephone interviews with those wishing assistance and to secure information in relation to our work, etc.

Extension Work

Judging at two fairs and one food exhibit in the City.
Address to Grain Growers' Convention and visit to the Brandon Normal School.

Normal School Work.

Lectures in Home Nursing and Foods.

Influenza Epidemic Emergency Work.

Conducted two classes in Home Nursing, each course consisting of ten lectures.

Suggestions

Teacher—The addition of another teacher in the Home Economics Department is very much needed in order that the College might serve the province in the best way.

Bulletins—Might be prepared on a good many subjects but at present there is not one teacher who has time for bulletin work.

Correspondence Courses—Might be developed but nothing can be done in this line until the close of the regular term.

College Work—Personal interviews with students are difficult to arrange when the director has so much lecture work, and the personal contact is very beneficial, particularly in the first year.

Visitors—It is difficult to give visitors the consideration they should have because it is difficult to find some one free to show them through the department.

Equipment—To plan for the most efficient work in Home Economics, there should be a Home Economics building where the girls could gain some experience in **complete** housekeeping. At present only meal work is possible, and that, while of greatest importance, represents only one phase of the duties of a homemaker. We have no opportunity to demonstrate the value of a well planned home kitchen and its relation to the other rooms of the house.

Investigational work in dietetics would be almost impossible without a dietetic laboratory as the cooking laboratories are in use the greater part of the time, and any way they are not equipped to serve as dietetic laboratories.

The present equipment could be used to much better advantage to illustrate the principles of labor saving if it were installed in a building planned for the purpose of Home Economics.

The two additions mentioned, the Home Suite and a Dietetic Laboratory, if they could be secured in the manner already suggested, would add inestimable value to the Course in Home Economics.

MISS CRUIKSHANK

The work of the Institutional Management classes is under the direction of Miss Cruikshank, who is the College Dietetian. The classes receive three lectures per week on Household Administration and they make visits to various institutions, making on an average of one visit per week. Their daily work varies according to the nature of the various responsibilities of marketing, accounting, etc. The remainder of their work—Invalid Cookery, Experimental Cookery, Demonstration Work and Household Management—is taken with the regular Home Economics students.

Library

The library started the year well with an increased circulation for the spring term; 2387 compared with 2171 for the corresponding term of the previous year, and in excess of all previous years. The Normal Teachers' course also showed an increase over the courses of the past years. Since September, however, the work of the library has been considerably affected by the influenza epidemic and other causes, with the result that the circulation during the Christmas term, starting on December 3rd, was very much lower, being less than half that for the 1917 term.

The plan adopted two years ago of giving to all first year students a short talk on the use of the library, including the use of reference books and catalogues, followed by a short exercise in research work, has been followed each term, and there has been a marked increase in the interest taken in the library. Now that more normal conditions are returning, it is confidently expected that the library will be called upon to render greater service, and any future increased expenditure on books and equipment would be well justified.

Correspondence Courses

In response to continued demands, a number of correspondence courses have been prepared, which will enable those who are so disposed, and who cannot for the time being attend the college, to study certain subjects belonging to Agriculture and Home Economics.

1. The courses now ready are:
   - No. 1. Poultry Keeping.
   - " 2. Building Construction Drawing.
   - " 3. Soil Management.
   - " 4. Dairy Husbandry.
   - " 5. Farm Records and Accounts.
   - " 6. Weeds—Suitable for both weed inspectors and farmers.
   - " 7. Botany and Nature Study—A good course for teachers.

2. Courses under preparation:
   - No. 8. Horticulture—Gardening, Small Fruits, Tree Planting.
   - " 9. Home Nursing.

SUCCESSFUL STUDENTS IN LONG COURSES
1917-18

First Year

Adolph, H. M.* .....Gull Lake, Sask.
Barimboum, Morris ....Winnipeg, Man.
Becker, J. H.* .....Morris, Man.
Berlet, Percy* .....Moline, Man.
Brown, A. A. .....Delorainc, Man.
Çain, Frank .....Seven Persons, Alta.
Cooper, J.* .....Foxwarren, Man.
Cruise, Robert H.*, Pilot Mound, Man.
Davidson, Leslie T.*, Newdale, Man.
Dickenson, Harry T. ..Solsgirth, Man.
Donahue, Clifford* .....Virden, Man.
Doupe, S. A.* .....Crandall, Man.
Elders, Arthur T. ..East Kild'n, Man.
Fanset, Leslic* .....Morris, Man.
Fletcher, Ernest* ....Holmfield, Man.
Gair, H. D. A.*, Portage la P., Man.
Greenblat, Henry* .....Inkster, Man.
Harper, Ronald L. .....
.....R.R. No. 2, Minnedosa, Man.
Hilder, F. H. .....Winnipeg, Man.
Howard, Herbert F.* .....
.....Crystal City, Man.
Hubler, John .....Maple Creek, Sask.
Kerr, W. R. .....Belmont, Man.
Killoh, James* .....Hamiota, Man.
Lee, William* .....Marchwell, Sask.
Leighton, W. G.* .....
.....East Kildonan, Man.
Leslie, J. L. .....Elkhorn, Man.
Merritt, Gordon Edison* .....
.....Winnipeg, Man.
Mowat, F. J.* .....Gladstone, Man.
McElheran, Maxwell M.*, Wpg., Man.
McEwen, R. G.* .....Fleming, Sask.
McKenzie, G. R., Portage la P., Man.
McKerchar, William J. .....
.....Elphinstone, Man.
McPherson, Alexander* .....
.....R.R. No. 6, Park Hill, Ont.
McPherson, Sinclair, Binscarth, Man.
Nelson, W. G. .....Chater, Man.
Nixon, Alvin F.* .....Battrum, Sask.
Palmer, Henry T.* .....Virden, Man.
Powrie, Oliver .....Elton, Man.
Rae, J. Wilfred .....Roblin, Man.
Renton, William B., Deloraine, Man.
Rigby, Edward J.* ....Winnipeg, Man.
Ryan, Lawrence R. Foxwarren, Man.
Sallans, William G. .....Ninga, Man.
Screaton, Herbert R. Winnipeg, Man.
Shillington. C. R.*, Carievale, Sask.
Smith, Wilfrid G. ....Oak Lake, Man.
Swanston, James F. ....Sperling, Man.
Thexton, Richard Henry, Wpg., Man.
Thompson, George T.* .....
.....Newton Siding, Man.
Thorson, Walter* .....Battrum, Sask.
Townsend, Ted. L. .....Craik, Sask.
Tunison, Fred'k H.* ....Wilson, Sask.
Winston, C. E. .....McConnell, Man.
Wood, Philip D.* .....Sifton, Man.
Edwards, Melissa S.*, Rosthern, Sask.
Clarke, S. E. .....Norwood, Man.

SHORT COURSE STUDENTS

NOTE—95% of the 465 students in Short Courses successful.

Second Year

Bodnar, Theodore ....Winnipeg, Man.
Crawford, Melbourne, Winnipeg, Man.
Dragan, George E. ....Komarno, Man.
Fraser, Harold B.* ..Glenella, Man.
Fraser, James D.* ....Letellier, Man.
Graham, John D. .....Roland, Man.
Hall, Harold C.* .....Neepawa, Man.
Hall, Walter H.* .....Ogilvie, Man.
Hammond, George E.*, Lachute. Alta.
Hancock, Leslie .....Winnipeg, Man.
Henry, Chester L.*, Grandview, Man.
Hinchliffe, Heber M. ....Souris, Man.
Irwin, Joseph .....Belmont, Man.
James, Gordon* .....Glacier, B.C.
Morcom, William Henry* .....
.....Hyndman, Man.
Prodan, Cornelius ..... Sifton, Man.
Sallans, Bryce J. .....Ninga, Man.
Sulik, John .....Kenaston, Sask.
Thompson, Joseph S. .....
.....Stansleigh, Alta.
Wilkins, E. Arnold* ....Reston, Man.
Will, J. A. B. .....Craik, Sask.
Will, William G. .....Craik, Sask.
Clarke, S. E. .....Norwood, Man.

Third Year Diploma

To receive Diplomas

Kilty, Edmund* .....Dauphin, Man.
Mutchmor, Percy M., Winnipeg, Man.
Scarth, Robert* .....Binscarth, Man.
Swenson, Walter* Union Point, Man.
Wells, Ray E.* .....Sardis, B.C.
Wilson, William G.* ....Reston, Man.

Third Year Degree

Burnside, John .....Keyes, Man.
Carlson, John A.* .....Roblin, Man.
Chapman, Clifford S., Beresford, Man.
Clarke, Sidney .....Norwood, Man.
Hopkins, John J.* ....Beresford, Man.
Josephson, Helgi B., Kandahar, Sask.
Mutchmor, Shirley M. ....Wpg., Man.
Popp, William* .....Winnipeg, Man.
Sturrock, Philip*, Brownfield, Alta.
Sutherland, James K.*, ..Eden, Man.
Trembath, James*, Cartwright, Man.

Fourth Year

Andrews, H. Clarence, ...Wpg., Man.
Baragar, Ernest A.*, Elm C'k., Man.
Bissett, Chester R. G. ....Wpg., Man.
Cox, Alvin* .....Union Point, Man.
Einarsson, Steini .....Calder, Man.
Fowler, William A.*, Shedden, Ont.
Hayter, Ernest S., Indian Head, Sask.
Heise, Russell E. .....Isabella, Man.
Kennedy, William A.* ....Wpg., Man.
MacWilliam, Alexander .....
....Rossendale, Man.
Stratton, Arthur K. ....Stonewall, Man.
Tolton, James H. .....Oak Lake, Man.
Vannice, Elmer* .....Pomeroy, Man.
Walker, Gordon B. .....Antler, Sask.
Weir, W. G.* .....Rosebank, Man.

Graduates, 1918

Received B.S.A. Degree

Brander, James J.* .....Nesbitt, Man.
Ellis, Joseph H. .....Glenboro, Man.
Heise Arthur C. .....Isabella, Man.
Hutton, Frank V. .....Redvers, Sask.
Johnston, Tandy A. .....Russell, Iowa
Rawlins, Robert .....Cupar, Sask.
Robertson, David W. .....Wpg. Man.
Watson, Earl W.....Valley River, Man.
Wood, Henry E. .....Belmont, Man.

SUCCESSFUL STUDENTS IN HOME ECONOMICS, 1917-18

First Year

Berlet, Mary L.* .....Moline, Man.
Brown, Anna M.*, Pilot Mound, Man.
Creighton, Melba A.* .....
.....Cypress River, Man.
Davidson, Leila* .....Newdale Man.
Dawson, Ruby* .....Winnipeg, Man.
Dole, Hazel E.* .....Calgary, Alta.
Duthie, Marjorie* .....Hartney, Man.
Eidse, Lena .....Morris, Man.
Elliott, Cora M. .....Kisbey, Sask.
Elliott, Florence .....Hamiota, Man.
Fisher, Juniata* .....Gainsboro, Sask.
Freed, Signe* .....Dubuc, Sask.
Forke, Margaret .....Pipestone, Man.
Hammel, Margaret* ..Gladstone, Man.
Jenkins, Erma, ...Union Point, Man.
Josephson, Malla* ..Kandahar, Sask.
Kemmer, Ruth* .....Hanley, Sask.
Lloyd, Jennie* .....
.....R.R. No. 1 Grandview, Man.
McDonald, Gladys* .....Virden, Man.
McNeill, Ida* .....Bryant, Sask.
McQueen, Jessie R. ....Fleming, Sask.
Meyers, Mary .....Kinistino, Sask.
Moorhead, E. Ruth ....Milestone, Man.
Munshaw, Agnes M., Hamiota, Man.
Olts, Mayme .....Melita, Man.
Olts, Myrtle* .....Melita, Man.
Popplestone, Catherine J.* .....
.....Pilot Mound, Man.
Reid, Nellie* .....Hargrave, Man.
Shore, Mary E.* .....Morden, Man.
Stevens, M. Alice .....Hamiota, Man.
Thomson, Emily J.* ....
.....Newton Siding, Man.
Thomson, Ethel R.* ..Hamiota. Man.
Trail, Annie* .....Kinistino, Sask.
Vance, Violet* .....Crandall, Man.
Williams, Kitty C.* .....Melita, Man.
Woods, Winnifred H.* ....Wpg., Man.
Faloon, Sadie* .....Foxwarren, Man.
Faloon, Ella* .....Foxwarren, Man.
Weatherald, Stella* ....Wawota, Sask.

Second Year

xBenson, Nora K. ....Neepawa, Man.
Berlet, Emma C.* .....Moline, Man.
Blair, Bertha* .....Hartney, Man.
Blair, Florence I.*, Ochre River, Man.
xDavidson, Edna G. ..Newdale, Man.
xFraser, Lila .....Winnipeg, Man.
xHallwright, Gladys E., Victoria, B.C.
Johnson, S.* .....Minnewakan, Man.

Hodgson, Violet* .....Roland, Man.
xReid, Margaret .....Cardale, Man.
xSchafer, Alberta ....Guernsey, Sask.
xSissons, Verna ....Portage la P., Man.
Snyder, Meryl* .....Winnipeg, Man.
xSproule, Laurie .....Winnipeg, Man.
xSt.Ruth, Doris M. .....Kelloe, Man.
xThordarson, Thori ....Winnipeg, Man.
xWood, Catherine .....Kenville, Man.

Marked (x) received diplomas.

Institutional Management

Lyon, Gretta .....Beulah, Man.
Sparling, Jennie .....Ninga, Man.
Stockwell, Gladys .....Carnegie, Man.

Third Year

Bruce, Gertrude J. ....Lashburn, Sask.
Cann, Myrtle H.* ....Rapid City, Man.
Fee, Elinor J.* .....Hartney, Man.
Hutchinson, Mary* .....Carroll, Man.
Judson, Evadine E.* ....Taber, Aita.
Kennedy, Anna .....Winnipeg, Man.
Low, Jennie* .....Foxwarren, Man.
Stewart, Jessie B. L., Goodlands, Man.

Fourth Year

Armstrong, Ethel .....Souris, Man.
Campbell, Tressa S.*, Ellisboro, Sask.
Henry, Gladys M.* ....Killarney, Man.
Moore, Evelyn* .....Manitou, Man.
Speechly, Margaret, ..Winnipeg, Man.

Gradnates 1918

Received B.H.E.C. Degree

Brown, Aurilla .....Sperling, Man.
McKillop, Margaret M. Carnduff, Sask.
Rayner, Margaret M., ..Cromer, Man.
Thompson, Esther ....Ethelbert, Man.
Weir, Mary Rathwell, Brandon, Man.
Wright, Bernice ..... Winnipeg, Man.

A star after the name indicates that the student must pass a supplemental examination before the year's work is complete.

WINNERS OF MEDALS, PRIZES AND SCHOLARSHIPS

Medals

Governor-General's Medal (Second Year Agriculture)—Cornelius Prodan, Sifton, Man.

Lieutenant-Governor's Gold Medal for Highest Aggregate on Fifth Year—(No award made on account of early closing of College).

Prizes

Board of Directors' Prizes:—

First Year.

1st Miss M. A. Stevens, Hamiota, Man.
2nd Miss F. Elliott, Victoria, B.C.

Second Year.

1st Miss M. Reid, Cardale, Man.
2nd Miss A. Schafer, Guernsey, Sask.

Highest Grades in First Year Sewing—Miss Munshaw, Miss Traill and Miss M. Olts.

'16 Cup for best dress and the best two loaves of bread, made by any student of Second Year—Miss Thorey Thordarson, Winnipeg, Man.

Cash prize of $10.00 for best essay on "Thrift in the Home"—Miss Alberta Schafer, Guernsey, Sask.

Ogilvie Flour Mills Cash prizes of $50.00 for Third Year students—(No award made, on account of early closing of College).

Hughes-Owens Company's prize for best set of drawings in Third Year, being a set of drawing instruments—Shirley Mutchmor.

Swift Canadian Company's Cash prize for the Fourth Year student standing highest in Animal Husbandry—(No award made, on account of early closing of College).

International Harvester Co. "Tom Thumb" Engine—(First Year Agriculture)—Clifford R. Shillington.

Western Retail Lumbermen's Association Cash prizes for Best Farm House Plans—Alberta Schfer, Annie Traill, Agnes Munshaw, Mary Myers, Jennie Lloyd, Ida McNeil.

The Louden Hardware Specialty Co. ($35) in cash prizes for best Barn Plans—

Sliver Cup and Medal for Public Speaking— Esther Thompson.

Isbester Cash Prize of $60.00 for General Proficiency in Third Year Home Economics— Anna Kennedy.

Isbester Cash Prize of $100.00 for General Proficiency in Fourth Year Home Economics— Margaret Speechly.

Silver Tea Service (presented by the T. Eaton Company) for highest standing on the aggregate of Fifth Year Home Economics—Esther Thompson.

Saskatchewan Scholarships—General Proficiency

First Year—Cora M. Elliott.
Second Year—Alberta Schafer.

SUMMARY OF ATTENDANCE FOR TWELVE MONTHS

Regular Course—Five and one half Months

Agricultural Students:

	Sess 1918-19	Sess'n 1917-18
1st Year	78	83
2nd Year	27	28
3rd Year	10	31
4th Year	8	16
5th Year	11	10
Total in agriculture	134	168

Home Economics Students:

	Sess 1918-19	Sess'n 1917-18
1st Year	28	54
2nd Year	16	19
3rd Year	12	14
4th Year	4	5
5th Year	4	7
Total in Home Economics	64	99

Total in Home Economics and Agriculture—Session 1917-18 267
" " " " —Session 1918-19 198

Short Courses, 1918-19.

Engineering	124
Normal	241
Teachers for B.S.A.	2
Home Economics Short Course	5
Rural Ministers	29
Returned Soldiers	143
Dairy Class	9
	553

Total in Short Courses	553
Total Long Course	198
Total in attendance May 1st, 1918, to Feb. 1, 1919	751

FINANCIAL REPORT

RECEIPTS

Students—		
Tuition Fees	$4,091.50	
Laboratory Fees	62.00	
Sick Benefit	36.00	
Laundry	42.00	
Smoking	9.00	
Inv. S. Commission	730.00	
		$ 4,970.50
Board and Room—		
Students	21,663.80	
Faculty	19,203.96	
		40,867.76
Miscellaneous—		
Farm	12,324.67	
General	1,467.06	
Laundry	767.69	
		14,559.42
Manitoba School for the Deaf—		
Board	23,374.32	
Laundry	3,375.17	
Miscellaneous	427.53	
		27,177.02
		$87,574.70
Paid out for Subsistence		$48,046.68

DISBURSEMENTS

		Estimate for 1918	Expended in 1918	
(a)	**Tuition—**			
	1. Salaries	$75,000.00	$83,870.91	
	2. Supplies and Expenses	12,000.00	15,190.18	
				$ 99,061.09
(b)	**Subsistence—**			
	1. Wages	20,000.00	19,069.34	
	2. Supplies and Expenses	25,000.00	12,389.87	
	3. Equipment	3,500.00	1,106.83	
				32,565.00
(c)	**Farm—**			
	1. Wages	22,600.00	24,378.08	
	2. Supplies and Expenses	25,700.00	27,388.49	
	3. Live Stock and Equipment	6,000.00	6,689.26	
				58,464.83
(d)	**Library—**			
	1. Salaries	1,760.00	1,760.00	
	2. Supplies and Expenses	1,400.00	975.24	
				2,736.34
(e)	**Filtration Plant—**			
	1. Salaries	1,140.00	1,140.00	
	2. Supplies and Expenses	935.00	564.12	
				1,704.12
(f)	**Miscellaneous—**			
	1. Wages	6,400.00	5,591.15	
	2. Supplies	1,200.00	302.75	
	3. Travelling Expenses	1,500.00	2,281.54	
	4. Prizes etc.	1,000.00		
				8,175.44
				$202,706.82
	Credits since November 30th			1,847.12
				$200,859.75

Part of the Vegetable Garden.

In the Pasture Fields.